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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/053,201	01/15/2002	Harry Rosenberg	(H058-068) 34593 CON.1	4057
21567	7590	03/31/2004	EXAMINER	
WELLS ST. JOHN P.S. 601 W. FIRST AVENUE, SUITE 1300 SPOKANE, WA 99201			DANG, PHUC T	
			ART UNIT	PAPER NUMBER
			2818	

DATE MAILED: 03/31/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>SUPPLEMENTAL</b> <b>Notice of Allowability</b>	Application No.	Applicant(s)	
	10/053,201	ROSENBERG ET AL.	
	Examiner	Art Unit	
	PHUC T DANG	2818	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--  
 All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Preliminary Amendment filed on October 29, 2003.
2. ☒ The allowed claim(s) is/are 31-32, 34-50 and 54-96 (renumbered as in new claims 1-62).
3. ☒ The drawings filed on 15 January 2002 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- \* Certified copies not received: \_\_\_\_\_.
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
  - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No. \_\_\_\_\_.
  - (b) ☐ including changes required by the proposed drawing correction filed \_\_\_\_\_, which has been approved by the Examiner.
  - (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet.

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |   |
|--|---|
| 1 <input type="checkbox"/> Notice of References Cited (PTO-892)  | 2 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)          |
| 3 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                    | 4 <input type="checkbox"/> Interview Summary (PTO-413), Paper No. _____             |
| 5 <input type="checkbox"/> Information Disclosure Statements (PTO-1449), Paper No. _____               | 6 <input type="checkbox"/> Examiner's Amendment/Comment                             |
| 7 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8 <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
|  | 9 <input type="checkbox"/> Other  |

PHUC T. DANG  
 PRIMARY EXAMINER

*[Signature]*

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## **DETAILED ACTION**

### **Examiner's Statement of Reasons for Allowance**

1. Claims 31-32, 34-50 and 54-96 are allowed.

Claims 31-32, 34-50 and 54-96 are renumbered as in new claims 1-62.

2. The following is an examiner's statement of reasons for allowance:

Claims 31-32 and 34 are allowable over the prior art for at least the reason that the prior art of record, taken alone or in combination, fails to teach or reasonably suggests a layer comprising high purity tantalum, less than about 500 ppm, by weight, total metallic impurities, less than about 20 ppm, by weight, total of tungsten and molybdenum, and less than 50 ppm, by weight, niobium.

Claims 35-39, 42 and 45-46 are allowable over the prior art for at least the reason that the prior art of record, taken alone or in combination, fails to teach or reasonably suggests a sputtering target blank comprising tantalum, less than about 500 ppm, by weight (ppmw) total metallic impurities, less than about 5 ppmw total of molybdenum and tungsten, less than about 100 ppmw oxygen, and less than 50 ppmw niobium.

Claims 40, 43 and 47-48 are allowable over the prior art for at least the reason that the prior art of record, taken alone or in combination, fails to teach or reasonably suggests a sputtering target blank comprising tantalum, less than 500 ppmw total metallic impurities, less than 5 ppmw total of molybdenum and tungsten, less than about 100 ppmw oxygen, and less than or equal to 10 ppbw each of uranium and thorium.

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Claims 41, 44 and 49-50 are allowable over the prior art for at least the reason that the prior art of record, taken alone or in combination, fails to teach or reasonably suggests a sputtering target blank comprising tantalum, less than 500 ppm by weight (ppmw) total metallic impurities, less than 2 ppmw total of molybdenum and tungsten, and less than 25 ppmw oxygen.

Claims 54-58, 67 and 70 are allowable over the prior art for at least the reason that the prior art of record, taken alone or in combination, fails to teach or reasonably suggests a tantalum sputtering target blank comprising tantalum and less than 5 ppm by weight (ppmw) molybdenum or tungsten, and less than 3 ppmw niobium.

Claims 59-62, 68 and 71 are allowable over the prior art for at least the reason that the prior art of record, taken alone or in combination, fails to teach or reasonably suggests a tantalum sputtering target blank comprising tantalum, less than 5 ppmw each of molybdenum and tungsten, and less than 50 ppmw niobium.

Claims 63-66, 69 and 72 are allowable over the prior art for at least the reason that the prior art of record, taken alone or in combination, fails to teach or reasonably suggests a tantalum sputtering target blank comprising tantalum and less than 50 ppmw total of molybdenum, tungsten, and niobium.

Claim 73 is allowable over the prior art for at least the reason that the prior art of record, taken alone or in combination, fails to teach or reasonably suggests a tantalum material comprising tantalum and less than 5 ppmw molybdenum or tungsten, and less than 3 ppmw niobium.

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Claim 74 is allowable over the prior art for at least the reason that the prior art of record, taken alone or in combination, fails to teach or reasonably suggests a tantalum material comprising tantalum and less than 5 ppmw each of molybdenum and tungsten, and less than 50 ppmw niobium.

Claim 75 is allowable over the prior art for at least the reason that the prior art of record, taken alone or in combination, fails to teach or reasonably suggests a tantalum material comprising tantalum and less than 50 ppmw total of molybdenum, tungsten, and niobium.

Claim 76 is allowable over the prior art for at least the reason that the prior art of record, taken alone or in combination, fails to teach or reasonably suggests a tantalum material sputtering precursor comprising tantalum and less than 5 ppmw molybdenum, or tungsten, and less than 3 ppmw niobium.

Claim 77 is allowable over the prior art for at least the reason that the prior art of record, taken alone or in combination, fails to teach or reasonably suggests a tantalum material sputtering precursor comprising tantalum and less than 5 ppmw each of molybdenum, and tungsten, and less than 50 ppmw niobium.

Claim 78 is allowable over the prior art for at least the reason that the prior art of record, taken alone or in combination, fails to teach or reasonably suggests a tantalum material sputtering precursor comprising tantalum and less than 50 ppmw total of molybdenum, tungsten, and niobium.

Claim 79 is allowable over the prior art for at least the reason that the prior art of record, taken alone or in combination, fails to teach or reasonably suggests sputtering tantalum material

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comprising tantalum and less than 5 ppmw molybdenum or tungsten and less than 3 ppmw niobium.

Claim 80 is allowable over the prior art for at least the reason that the prior art of record, taken alone or in combination, fails to teach or reasonably suggests sputtering tantalum material comprising tantalum, less than 5 ppmw each of molybdenum and tungsten, and less than 50 ppmw niobium.

Claim 81 is allowable over the prior art for at least the reason that the prior art of record, taken alone or in combination, fails to teach or reasonably suggests sputtering tantalum material comprising tantalum and less than 5 ppmw total of molybdenum, tungsten, and niobium.

Claim 82 is allowable over the prior art for at least the reason that the prior art of record, taken alone or in combination, fails to teach or reasonably suggests deposited tantalum material comprising tantalum and less than 5 ppmw molybdenum or tungsten and less than 3 ppmw niobium.

Claim 83 is allowable over the prior art for at least the reason that the prior art of record, taken alone or in combination, fails to teach or reasonably suggests deposited tantalum material comprising tantalum, less than 5 ppmw each of molybdenum and tungsten, and less than 50 ppmw niobium.

Claim 84 is allowable over the prior art for at least the reason that the prior art of record, taken alone or in combination, fails to teach or reasonably suggests deposited tantalum material comprising tantalum and less than 50 ppmw total of molybdenum, tungsten, and niobium.

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Claims 85-88 are allowable over the prior art for at least the reason that the prior art of record, taken alone or in combination, fails to teach or reasonably suggests an ingot comprising high purity tantalum comprising tantalum, less than about 500 ppm, by weight, total metallic impurities, less than about 50 ppm, by weight, niobium, and less than about 50 ppm, by weight, tungsten or molybdenum.

Claims 89-90 are allowable over the prior art for at least the reason that the prior art of record, taken alone or in combination, fails to teach or reasonably suggests an ingot comprising tantalum, less than about 500 ppm, by weight, total metallic impurities, and less than 5 ppmw each of molybdenum and tungsten.

Claims 91-94 are allowable over the prior art for at least the reason that the prior art of record, taken alone or in combination, fails to teach or reasonably suggests a powder comprising high purity tantalum comprising tantalum, less than about 500 ppmw total metallic impurities, less than about 50 ppm, by weight, niobium, and less than about 50 ppmw tungsten or molybdenum.

Claims 95-96 are allowable over the prior art for at least the reason that the prior art of record, taken alone or in combination, fails to teach or reasonably suggests a powder comprising tantalum, less than about 500 ppmw total metallic impurities, and less than 5 ppmw each of molybdenum and tungsten.

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuc T. Dang whose telephone number is (571) 272-1776. The examiner can normally be reached on 8:00 am-5:00 pm.


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4. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David C. Nelms can be reached on 703-308-4910. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9306 for After Final communications.

5. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Phuc T. Dang

PD



Primary Examiner

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March 24, 2004